

A\* Implementation for single agent pathfinding (assign # 1):

- only find path for a single agent
- we only kept in memory the nodes with optimal  $g^*$ -value

A\* Implementation for multi-agent pathfinding (CBS):

- accounts for multiple agents by considering their interactions and potential conflicts
- Keeps constraints in mind to make sure paths dont collide
- need to store one node representing each state and time step
  - State  $s$  in time step 1 and state  $s$  in the same spot at time step 2 = store both copies
- This is because the optimal solution could require non-optimal  $g$ -values for individual agents
  - for example an agent waiting for a time step  $\neq$  optimal  $g$ -value